REMARKS/ARGUMENTS

Claim Amendments

The Applicant has amended claims 1, 2 and 11. Applicant respectfully submits no new matter has been added. Accordingly, claims 1-16 are pending in the application. Favorable reconsideration of the application is respectfully requested in view of the foregoing amendments and the following remarks.

Claim Rejections – 35 U.S.C. § 102(b)

Claims 1-4, 10-11 and 13-16 stand rejected under 35 U.S.C. 102(b) as being anticipated by Skog (6,427,076). The Applicants respectfully traverse the rejection of these claims.

The Applicant has included, as an attachment, a graphic illustration of the operation of each of the cited references along with an illustration of the present invention. The Applicant respectfully requests the Examiner to review and refer to the illustrations while reviewing the Applicant's Response.

In the Applicant's present invention, the at least one mobile station may send a USSD message, which is received by the network node. The node, to which the mobile station is attached, is in a good position to know the location of the mobile station (page 4, lines 22-28) because of proximity and connection to the mobile station. So, a processing unit in the network node adds location information of the mobiles station to the USSD message and forwards the message. There are no other location messages required to be sent as the USSD message, sent from the mobile station to the HLR, passes through the network node (e.g., an MSC or any other node that is capable of modifying the USSD message) and provides the current location of the mobile station that transmitted the USSD message.

The Skog reference discloses that location information is provided to the MSC/VLR in Figure 2. The Detailed Action states that provision of the location information is by the use of a USSD message, citing column 5, lines 45-50. The Applicant respectfully disagrees with the Examiner's interpretation of this cited portion. The Applicant submits that this cited portion refers to a normal operation of an MS

signaling its location in a standard manner when it changes location, but that the insertion of location information in the USSD message by the connected network node is not normal operation.

On the other hand, a USSD message is used to provide <u>information</u> to the MS in a return message. Further down in column 6, lines 12-15 the MSC/VLR uses software for sending subscriber data <u>to</u> the mobile station using USSD provisions. The principle problem with the Skog reference is that the location of the mobile station is never really current or up-to-date. Location of the mobile station may be determined and stored in the HLR with the location information being automatically updated if there is a change of MSC, for instance. Or, the HLR may subscribe to changes and the MSC may get new location data. Regardless, the location information is still provided to the MSC or HLR after processing and <u>then</u> it may become available to systems in need of the information. Now, to further complicate matters in normal network operation, providing the location information is only done when the mobile station transmits, when it enters an MSC area or when it moves to a different location area. The MSC will not get an update if there is a change of <u>cell</u> by the mobile station or if the mobile station is switched off. Since the Skog reference does not disclose the action by a node in the network of including location information in a USSD, the Applicant respectfully requests the allowance of independent claim 1, analogous independent claim 11 and dependent claims 2-4, 10 and 13-16.

The Applicant respectfully asserts that the USSD message sent by the mobile station, and the network node that includes location of the mobile station in the USSD message is not disclosed by the Bhaumick reference.

Claims 1-4, 10-11, and 13-16 stand rejected under 35 U.S.C. 102(b) as being anticipated by Bhatia (5,930,699). The Applicants respectfully traverse the rejection of these claims.

The Bhatia reference also does not include the step of inserting, or including, current location information in a USSD request/message. In paragraph 2 of the Detailed Action, column 2, lines 28-45 is cited as disclosing transmitting data location area/global identity information to a relational database using USSD. The Applicant respectfully

disagrees with the Examiner's interpretation. The location of the mobile station is not transmitted using USSD. Column 2, lines 6-11 discusses the actual information included in the USSD; that of a <u>request</u> for information: "Initially, a user at a mobile station 10 request at step 15 information concerning the nearest location of a particular type of business, for example, a restaurant, gas station or movie theater." The Applicant respectfully submits that Column 3, lines 10-25, which is cited for disclosing that the MSC/VLR determines the present location of the mobile with respect to a business, makes the Applicant's point. A node connected to the mobile station determines the location of the mobile station and inserts the location into a USSD message.

A difference between Bhatia and the present invention is that Bhatia receives a USSD <u>request</u> for information and the <u>MSC/VLR determines the location</u> of the mobile <u>in response </u>to the USSD request; whereas, if the present invention were used the MSC/VLR would already have the location of the mobile as having been included in a USSD message. In the second paragraph of the Bhatia Detailed Description, Bhatia points out that the USSD message is not modified during passage between MS and HLR. "USSD messages enable user interaction between public land mobile network (PLMN) applications and a mobile station in a transparent manner through a mobile telecommunications network. The communication is transparent because <u>no review or manipulation of the contents of the message is performed during the transportation period." (col. 2, lines 24-27)</u>. Therefore, since the independent claims include the element regarding including location information in the message and Bhatia does not disclose the limitation of including location information in the USSD, then Bhatia does not anticipate the independent claims 1 and 11.

This being the case, the Applicant requests the allowance of independent claims 1 and 11 and the respective dependent claims 2-4, 10 and 13-16.

Claim Rejections – 35 U.S.C. § 103 (a)

Claims 1-4, 7-8, 10-11, and 13-16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicants Admitted Prior Art (hereinafter AAPA) in view of Bhaumick (2004/0248546). The Applicant respectfully traverses the rejection of these

claims. The Applicant respectfully submits that AAPA and Bhaumick, whether taken individually or in combination, fail to disclose all the elements of independent claims 1 and 11.

An advantage of the Applicant's invention is that by sending the USSD for a service request, the mobile station is transmitting (position is detected) anyhow and the mobile station position is measured and becomes available at the MSC. The airtime consuming method of Bhaumick for regular updating is avoided and the mobile station of the present invention does not require dedicated logic as discussed in the AAPA.

As noted in paragraph of the Detailed Action, the Examiner states that AAPA teaches that the "...mobile station sends unstructured supplementary service data to network wherein the unstructured supplementary service data contains the cell identifier..." (para. [0013]). The Applicant respectfully submits that the sentence states that the mobile station sends the USSD with the cell identifier and the Applicant's present invention claims a network node adding the mobile station location to a USSD that has been sent by the mobile station. Thus, the AAPA teaches away from the present invention, which inserts/includes location information in a (any) USSD message (see paragraphs [0014] – [0015] where the prior art uses a dedicated mechanism for providing location).

The Bhaumick reference discloses an alternative to the known paging methods as stated in 3GPP TS 25.305 together with the base mechanism for MAP-ATI (Any Time Interrogation) and MAP -PSI (provide subscriber information) 3GPP TS 23.078 and 29.002. MAP-PSI is used by the HLR to send a request to a MSC for an update of specific data of a mobile station. By including an active paging parameter in MAP-PSI the MSC will measure the mobile station position by means of one of the methods stated in 3GPP 25.305 and report back to the HLR. Basic for all methods is that the mobile station transmits, which enables the mobile network to measure the MS position. This is also what Bhaumick basically does, causing the mobile station to transmit without user intervention.

Bhaumick uses a USSD message (or SMS or MMS) including an error causing the mobile station to automatically reply with an error report. When the mobile station

transmits the report the <u>mobile network</u> can now measure the position of the mobile station. The USSD message is for triggering location measurement, not for receiving location information for transmittal to, e.g., an HLR. Bhaumick discloses in paragraph [0008] that the base station stores the location measured when the error report is transmitted. After that, standard mechanisms are used as available and as indicated in paragraph [0008], no other modifications are required to MS, HLR or VLR. For a base station and MSC this is included in the BTAP protocol. From MSC to HLR/VLR this is MAP-PSI.

The Detailed Action indicates that Bhaumick teaches updating location information without the mobile station having to send USSD containing the mobile station location. The present invention teaches that the mobile station sends a USSD, any USSD, and the connected node adds the mobile station location to the USSD prior to forwarding the USSD

A person skilled in the art attempting to combine both teachings would avoid the MS including position information in the USSD message being sent to the handling service. If the service is in a separate service handler MAP-ATI can be used towards an HLR to get the position information.

The Applicant would also like to point out that an MSC to MSC handover as stated on page 9, lines 7-10 of the Detailed Action is incorrect. Bhaumick is cited as supporting the statement that "...when a mobile leaves the geographical area covered by an MSC and enters the area covered by another MSC, the data record for the mobile station is transferred to the other MSC by means of USSD message." (para [0019], lines 75-107). First, the 3GPP standard requires that the MSC/VLR handover mechanism is based on MAP handover messages, not USSD messages. Second, the Applicant respectfully submits that Bhaumick does not disclose the data record being handed over through use of USSD. The cited portion does refer to handing over a data record, but does not actually disclose the how.

The Applicant suspects that a combination of sentences in Bhaumick is used to provide support for the rejection in the Detailed Action. The first sentence; "When a mobile radio apparatus 1 leaves the geographical area covered by an MSC 100 and

enters the area covered by an other MSC 100 the data record allocated to the mobile radio apparatus 1 is loaded into the VLR 4 allocated to the new MSC." (para. [0019], lines 75-107). A second sentence that comes later in the paragraph states; "According to the invention, one or more USSD, SMS, or MMS messages are generated for this purpose by means of an updating module 3, which messages, according to GSM standard, produce an error report upon reception by the mobile radio apparatus 1." Taken together without reading the intervening text, this would appear to indicate that the data record is transferred by USSD message.

However, between the first sentence and the "second" sentence is a further sentence which the Applicant asserts is the subject matter to which the second sentence is referring: "For location-based services over a GSM mobile radio network, the location of a mobile radio apparatus 1 in the GSM mobile radio network is determined based upon the individual cells 400 of base stations 300 of the mobile radio network for updating location information of the mobile radio apparatus 1." (immediately precedes the second sentence). Standard sentence construction would require that the term "this purpose" in the second sentence refers to the subject immediately preceding "this purpose". The Applicant respectfully asserts that the second sentence is referring to the subject matter in the further sentence immediately preceding the "second" sentence, as described above; that of determining the location of a mobile radio apparatus not transferring the data record for the mobile station from one MSC to another using USSD.

As provided in MPEP § 2143, "[t]o establish a prima facie case of obviousness, … the prior art reference (or references when combined) must teach or suggest all the claim limitations." In that regard, the Applicant respectfully submits that the Examiner's two references still fail to teach or suggest each and every element of the presently pending independent claims.

The Applicant respectfully submits that the examiner has not produced a prima facie case of obviousness and the allowance of claim 11, analogous claim 1 and the respective dependent claims 2-4, 7-8, 10, and 13-16 is respectfully requested.

Claims 5-6 and 12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's Admitted Prior Art (hereinafter AAPA) in view of Bhaumick (2004/0248546) further in view of Koster (2005/0009499) (hereinafter Koster). The Applicant respectfully traverses the rejection of these claims.

The Koster reference is cited for teaching systems and methods for billing a mobile wireless subscriber for location services. The Applicant respectfully submits that Koster does not teach the limitation missing from the Bhaumick reference and AAPA; that of a mobile station sending a USSD service request and the position of the mobile station, determined by the connecting node, is automatically determined and included in the USSD service request

Claims 5, 6 and 12 depend from claims 1 and 11 directly or indirectly and recite further limitations in combination with the novel elements of claims 1 and 11. Therefore, the allowance of claims 5, 6 and 12 is respectfully requested.

Claim 9 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's Admitted Prior Art (hereinafter AAPA) in view of Bhaumick (2004/0248546) further in view of Elliott et al (2008/0095339) (hereinafter Elliott). The Applicant respectfully traverses the rejection of these claims.

The Elliott reference is cited for teaching transferring billing information across telephone switches with a time offset to account for different time zones and daylight savings time changes The Applicant respectfully submits that Koster does not teach the limitation missing from the Bhaumick reference and AAPA; that of a mobile station sending a USSD service request and the position of the mobile station, determined by the connecting node, is automatically determined and included in the USSD service request
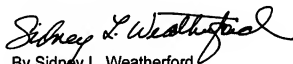
Claim 9 depends from amended claim 1 and recites further limitations in combination with the novel elements of claim 1. Therefore, the allowance of claim 9 is respectfully requested.

CONCLUSION

In view of the foregoing remarks, the Applicant believes all of the claims currently pending in the Application to be in a condition for allowance. The Applicant, therefore, respectfully requests that the Examiner withdraw all rejections and issue a Notice of Allowance for all pending claims.

The Applicant requests a telephonic interview if the Examiner has any questions or requires any additional information that would further or expedite the prosecution of the Application.

Respectfully submitted,

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P18279 US analysis prior art stated

"SKOG"
USSD service request
MS C
HLR
Location updates are only send if LA changes not on Cell ID.

"BAUMICK"
USSD message with error
Error report
Loc info
Loc update
MS C
HLR
USSD with error is send on:
- Regular time interval,
- Based on moving speed,
- Based on a location request

"BHATIA-HLR"
USSD service request
Loc info
Loc update
MS C
HLR
Database

"BHATIA-VLR"
Database
USSD service request
Loc info
MS C
HLR

Application
USSD service request
Loc info
MS C
HLR